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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,990

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Hidetoshi Oyama

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7590

08/12/2008

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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

08/12/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/568,990	Applicant(s) OYAMA ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2006 and 22 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-10 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sigl (US 5,642,260) in view of JP 6-97688 (see applicants' IDS dated May 31, 2007).

Sigl discloses an arc welding power supply housing, in which the housing of the arc welding supply apparatus 10 includes a plurality of heat radiating electrical components; front and back panels (12,14), a base 16, and a top cover 18; a pair of side walls (26,28) and top panel 30 forming a cooling wind tunnel (box body) in which a

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heat radiating unit (first electrical element in the form of a power module heat sink 42, which has heat radiating fins internal to the box body, in a portion of an outer peripheral portion that defines a cavity portion) is enclosed, with the heat radiating unit 42 defining rows of cavities and having a tunnel shape and a substantially cuboid shape (beneath the top panel 30 that forms an outer peripheral portion that further defines a cavity portion for air flow therethrough); a fan 23 mounted adjacent an opening (air flow hole portion) of the heat radiating unit 42 while being aligned with two “inside-facing” openings (louvres 20,22) arranged in the two front and back panels (12,14) to form mutually facing surfaces, or side panels, all of which combine to be operable for allowing air to flow therethrough; and a plurality of other (e.g. second, third etc.) electrical elements that generate heat adjacent the outer peripheral portion defining the cavity portion, including an inverter circuit, a rectifier (inclusive of a rectify diode 25) heat sink 34, transformer 32, inductor 38, stabilizer 42, and plural reactors in the form of coils, windings, or conductors of small resistance (column 2, lines 64-67), which are all disposed within the wind tunnel (abstract; column 1, lines 5-44; column 2, lines 14-67; column 3, lines 1-10; and Figures 1-6). Sigl does not specifically disclose the use of two or more rows of cavity portions that are separated by one or more dividers to separate the cavity portions into individualized compartments, such that respective heat generating electrical elements would be cooled by the air flow in each of the individualized compartments.

However, JP 6-97688 discloses a cooling structure of an electronic device, in which the electronic device includes a housing that encloses a plurality of heat-

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generating electrical elements, and a box body divided (by dividers) into plural rows of cavity portions, each cavity portion of which defines individualized racks/compartments and includes ventilation ports (23a,23b) with respective fans therein, for providing an air stream flow through the respective cavity portions that define individualized compartments surrounding respective heat generating electrical elements that would be cooled by the air flow in each of the individualized compartments, such that these features are advantageous for providing effective cooling to the electronic device inside a plurality of racks/compartments (abstract; and Figures 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the arc welding power supply housing with a wind tunnel, as disclosed by Sigl, by using the cooling structure of an electronic device with plural rows of cavity portions (including respective fans) that are divided by dividers to define individualized racks/compartments surrounding respective heat generating electrical elements that would be cooled by the air flow in each of the individualized compartments, as taught by JP 6-97688, in order to provide effective cooling to the electronic device inside a plurality of racks/compartments (JP 6-97688; abstract).

4. Claims 1-10, 12-15, 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6,888,099) in view of JP 6-97688 (see applicants' IDS dated May 31, 2007).

Schneider discloses a wind tunnel for an arc welding power supply housing, in which the arc welding supply housing 12 includes a plurality of heat radiating electrical

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components; front and rear panels (16,18), a base panel 19, and a top cover 14; a U-shaped panel 50 (second chamber interior to the housing 12 of Figures 2, 3, 6, and 7) that includes side panels (56,58), a top panel 54, and side openings (64,66), thus forming a cooling wind tunnel 52 (box body) in which a heat radiating unit (first electrical element in the form of a heat sink assembly 48, which has heat radiating fins (108,110) internal to the box body (wind tunnel 52), in a portion of an outer peripheral portion that defines a cavity portion) is enclosed, with the heat sink assembly 48 defining rows of cavities and having a tunnel shape and a substantially cuboid shape (enclosed by the top panel 54 and side panels (56,58) that form an outer peripheral portion that further defines a cavity portion for air flow therethrough); a fan 124 mounted adjacent an opening (air flow hole portion) of the heat sink assembly 48 while being aligned with two “inside-facing” openings (louvres 20 on the cooling inlet 22 and cooling exit 24 of the housing 12) arranged in the two front and rear panels (16,18) to form mutually facing surfaces, or side panels, all of which combine to be operable for allowing air to flow therethrough; and a plurality of other (e.g. second, third etc.) electrical elements 90 that generate heat adjacent the outer peripheral portion defining the cavity portion, which would include an inverter circuit (abstract; column 1, lines 6-8 and 28-54; column 2, lines 39-67; column 3, lines 1-35 and 64-67; column 4, line 1 through column 8, line 3; and Figures 1-7). Schneider does not specifically disclose the use of two or more rows of cavity portions that are separated by one or more dividers to separate the cavity portions into individualized compartments, such that respective heat generating

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electrical elements would be cooled by the air flow in each of the individualized compartments.

However, JP 6-97688 discloses a cooling structure of an electronic device, in which the electronic device includes a housing that encloses a plurality of heat-generating electrical elements, and a box body divided (by dividers) into plural rows of cavity portions, each cavity portion of which defines individualized racks/compartments and includes ventilation ports (23a,23b) with respective fans therein, for providing an air stream flow through the respective cavity portions that define individualized compartments surrounding respective heat generating electrical elements that would be cooled by the air flow in each of the individualized compartments, such that these features are advantageous for providing effective cooling to the electronic device inside a plurality of racks/compartments (abstract; and Figures 1 and 4).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the arc welding power supply housing with a wind tunnel, as disclosed by Schneider, by using the cooling structure of an electronic device with plural rows of cavity portions (including respective fans) that are divided by dividers to define individualized racks/compartments surrounding respective heat generating electrical elements that would be cooled by the air flow in each of the individualized compartments, as taught by JP 6-97688, in order to provide effective cooling to the electronic device inside a plurality of racks/compartments (JP 6-97688; abstract).

Response to Arguments

5. The examiner acknowledges the applicants' amendment received by the USPTO on June 16, 2008. The applicants have added new claim 20. Claims 1-10 and 12-20 are currently under consideration in the application.

6. Applicants' arguments filed June 16, 2008 have been fully considered but they are not persuasive.

With regard to the applicants' remarks/arguments on pages 5-7 of the amendment, it is noted that the newly underlined portions of above sections 3 and 4 (the 35 USC 103(a) rejections section) have been added to reflect the applicants' amendment to independent claim 1. Regarding the argument in the paragraph bridging pages 5 and 6 of the remarks/arguments section, the applicants state that "JP 6-97688 does not teach or suggest that the cavity portion of one device is divided into plural compartments to cool the respective electrical elements". The examiner respectfully disagrees, as there are several electrical elements present in both primary references (Sigl and Schneider), despite the lacking feature of having divider(s) to separate the cavity portions into individualized compartments. Moreover, ventilation ports (23a,23b) have respective fans to provide respective air stream flows through the respective cavity portions defining said individualized compartments. In the 1st full paragraph on page 6 of the remarks/arguments section, the applicants state that "JP 6-97688 does not teach or suggest to cool the respective heat radiators inside and outside the cavity portion". It is noted that this argument addresses features that are not being distinctly claimed. In

response to applicants' argument that the references fail to show certain features of applicants' invention, it is noted that the features upon which applicant relies (i.e., "cool the respective heat radiators inside and outside the cavity portion") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Regarding the remainder of the arguments (throughout pages 6 and 7 of the remarks/arguments section), the applicants address the following features: 1) "second electrical part being affected by dust"; 2) "each have different configurations and technical viewpoints"; and 3) "the apparatus described in Sigl and Schneider should be portable by hands, and such a portable apparatus has a basic object of reduction in size and weight". As discussed above (for the argument "cool the respective heat radiators inside and outside the cavity portion"), none of these three arguments are commensurate in scope to the claimed limitations, and such arguments generally attack the references individually, rather than what one of ordinary skill in the art would have recognized upon the combined teachings of the references. In response to applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, the features of JP 6-97688 are advantageous for providing effective cooling to the electronic device inside a plurality of racks/compartments (JP 6-97688; abstract). As a result, claims 1-10 and 12-20 remain rejected.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns
Primary Examiner
Art Unit 1793

/Kevin P. Kerns/
Primary Examiner, Art Unit 1793
August 2, 2008